

WHAT IS CLAIMED IS:

1. A method for manufacturing a semiconductor device,

2 comprising:

3 forming a polysilicon gate electrode over a substrate;

4 forming source/drain regions in said substrate proximate said
5 polysilicon gate electrode;

6 forming a blocking layer over said source/drain regions, said
7 blocking layer comprising a metal silicide;

8 siliciding said polysilicon gate electrode to form a silicided
9 gate electrode.

2. The method as recited in Claim 1 wherein said forming a

2 blocking layer occurs prior to said siliciding said polysilicon
3 gate electrode.

3. The method as recited in Claim 1 wherein said blocking

2 layer is a silicided source/drain contact region.

3 4. The method as recited in Claim 1 wherein said silicided

4 gate electrode comprises a different metal silicide than said
5 blocking layer.

5. The method as recited in Claim 4 wherein said blocking
2 layer comprises a cobalt silicide and said silicided gate electrode
3 comprises a nickel silicide.

6. The method as recited in Claim 1 wherein said blocking
2 layer has a thickness ranging from about 10 nm to about 35 nm.

7. The method as recited in Claim 1 further including
2 forming a protective layer over said polysilicon gate electrode
3 prior to said forming a blocking layer over said source/drain
4 regions.

8. The method as recited in Claim 7 wherein said protective
2 layer is a silicon nitride protective layer.

3 9. The method as recited in Claim 1 wherein siliciding said
4 polysilicon gate electrode to form a silicided gate electrode
5 includes fully siliciding said polysilicon gate electrode to form
6 a fully silicided gate electrode.

10. A method for manufacturing an integrated circuit,

2 comprising:

3 forming semiconductor devices over a substrate, including;

4 forming a polysilicon gate electrode over a substrate;

5 forming source/drain regions in said substrate proximate

6 said polysilicon gate electrode;

7 forming a blocking layer over said source/drain regions,

8 said blocking layer comprising a metal silicide;

9 siliciding said polysilicon gate electrode to form a

10 silicided gate electrode; and

11 forming interconnects within dielectric layers located over

12 said substrate for electrically contacting said semiconductor

13 devices.

11. The method as recited in Claim 10 wherein said forming a

2 blocking layer occurs prior to said siliciding said polysilicon

3 gate electrode.

12. The method as recited in Claim 10 wherein said blocking

2 layer is a silicided source/drain contact region.

3 13. The method as recited in Claim 10 wherein said silicided

4 gate electrode comprises a different metal silicide than said

5 blocking layer.

14. The method as recited in Claim 13 wherein said blocking
2 layer comprises a cobalt silicide and said silicided gate electrode
3 comprises a nickel silicide.

15. The method as recited in Claim 10 wherein said blocking
2 layer has a thickness ranging from about 10 nm to about 35 nm.

16. The method as recited in Claim 10 further including
2 forming a protective layer over said polysilicon gate electrode
3 prior to said forming a blocking layer over said source/drain
4 regions.

17. The method as recited in Claim 16 wherein said protective
2 layer is a silicon nitride protective layer.

18. The method as recited in Claim 10 wherein siliciding said
3 polysilicon gate electrode to form a silicided gate electrode
4 includes fully siliciding said polysilicon gate electrode to form
5 a fully silicided gate electrode.